

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

The specification is objected to as incorporating material by reference to a foreign patent. Claims 1, 3-8, 10-12, and 14-22 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Tool and Manufacturing Engineer's Handbook (hereinafter the *Engineer's Handbook*) in view of Mori and Nomura.

With regard to the objection to the specification, it is respectfully submitted that this objection was overcome by the Amendment filed May 8, 2003. In this Amendment, it was respectfully noted that the Abstract of the Disclosure does not contain any reference to a foreign patent application. However, the Field of the Invention did contain such a reference, which was deleted by the Amendment filed May 8, 2003. Accordingly, the objection to the specification is believed to be overcome by this previous amendment.

With regard to the rejection of Claims 1, 3-8, 10-12, and 14-22 under 35 U.S.C. §103(a) as unpatentable over the *Engineer's Handbook* in view of Mori and Nomura, this rejection is respectfully traversed.

Claim 1 recites a hole forming tool "wherein a core diameter thereof is in a range of 0.38D to 0.42D, wherein D comprises a cutting edge diameter of said hole forming tool."

The outstanding Office Action cited Figures 9-30 and 9-31 of the *Engineer's Handbook* as teaching or suggesting this element. However, it is respectfully submitted that Figure 9-31 is a graph of *chisel edge length* vs. torque and thrust force, not "a core diameter," as recited in Claim 1. Lines 12 and 13 on page 9-44 state that chisel edge length is proportional to web thickness, and Figure 9-30 illustrates that chisel edge length is always greater than the web thickness. Accordingly, a graph showing chisel edge length being varied between 0 and 0.5, **does not** disclose a web thickness being varied from 0 to 0.5. Web

thickness will vary from 0 to a number less than 0.5, depending on the drill geometry. Since there is no fixed proportion taught or suggested between chisel edge length and web thickness, it is respectfully submitted that drills having a web thickness of $0.38D$ to $0.42D$ are not taught or suggested by the *Engineer's Handbook*.

Accordingly, it is respectfully submitted that a core diameter of $0.38D$ to $0.42D$, as recited in Claim 1, is greater than the core diameters taught or suggested by Figures 9-30 and 9-31. Since the core diameters recited in Claim 1 lie beyond the range shown in the cited figures, it is respectfully submitted that the "general conditions" of the claim have not been disclosed by the cited references. Accordingly, the holding of *In re Aller*, cited in the outstanding Office Action, is not applicable to this case.

Since the cited references do not teach or suggest each and every element of Claim 1, it is respectfully submitted that Claim 1, and Claim 3 dependent therefrom, is patentable over the cited references.

Independent Claims 4, 6, 7, 11, and 16-22 recite similar elements to Claim 1. It is respectfully submitted that Claims 4, 6, 7, 11, and 16-22, and all claims dependent therefrom, are patentable over the cited references for the reasons discussed above with respect to Claim 1.

Application No. 09/821,069
Reply to Office Action of November 4, 2004

In view of the foregoing, an early and favorable Office Action is believed to be in order and the same is hereby respectfully requested.

Respectfully submitted,

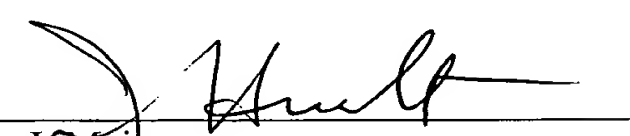
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